Fate of a two-dimensional bubble(Poster session 2, New Frontiers in Colloidal Physics : A Bridge between Micro- and Macroscopic Concepts in Soft Matter)

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2次元液槽中の気泡が、液中を液・気界面まで上昇し、その後、破裂して消滅するに至る動力学に関する実験を行った。これに関し、気泡壁の厚みの減少法則について得られた実験結果が理論的にシンプルに説明できることを報告する。

We fill a Hele-Shaw cell with a polydimethylsiloxane melt (PDMS) and inject a bubble from the bottom of the cell. The bubble slowly rises up to the liquid-air interface and stay there for a few minutes, and then it suddenly burst to disappear. We measured the thickness of the liquid film and report that the experimental results can be explained by a simple hydrodynamic model.

Acknowledgment

We thank K. Nakaya and M. Imai (Ochanomizu Univ.) for experimental advices.